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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/601,414	08/01/2000	MASAHITO YOSHIKAWA	1344-00	2306

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EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 08/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,414

Applicant(s)

YOSHIKAWA ET AL.

Examiner

Walter D. Griffin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 12, 2002 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (6,043,179).

The Davis reference discloses a process for converting hydrocarbon compounds by contacting the compounds with a CIT-5 zeolite catalyst. The CIT-5 zeolite is formed and synthetic and has the claimed characteristics. The catalyst may contain hydrogenating metals. Specific conversion processes include the isomerization of polyalkyl-substituted aromatics. See col. 9, lines 7-12 and col. 10, lines 16-37.

The Davis reference does not disclose the specific aromatic compounds claimed in claims 1, 4, and 5 and does not disclose the crystal size of claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Davis by utilizing the claimed compounds of claims 1 and 5 because the claimed compounds fall within the general class of polyalkyl-substituted aromatic compounds disclosed by Davis and therefore would be expected to be effectively isomerized in the process.

Regarding the isomerization of an aromatic compound with at least one halogen substituent as in claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Davis by utilizing these halogen-containing aromatic compounds because one would expect any large aromatic compound to be isomerized since it is generally disclosed that the large polyalkyl-substituted aromatic compounds are isomerized.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Davis by utilizing a zeolite with a crystal size as claimed in claim 10 because using any crystal size in the catalyst would be expected to result in an effective process since it is the catalyst pore characteristics that determine the effectiveness of the catalyst for a specific application.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zones et al. (5,215,648).

The Zones reference discloses a process for converting hydrocarbon compounds by contacting the compounds with an SSZ-31 zeolite catalyst. The SSZ-31 zeolite is formed and synthetic and has the claimed characteristics. The catalyst may contain hydrogenating metals. Specific conversion processes include the isomerization of polyalkyl-substituted aromatics. See col. 7, line 59 through col. 9, line 50.

The Zones reference does not disclose the specific aromatic compounds claimed in claims 1, 4, and 5 and does not disclose the crystal size of claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Zones by utilizing the claimed compounds of claims 1 and 5 because the claimed compounds fall within the general class of polyalkyl-substituted aromatic compounds disclosed by Zones and therefore would be expected to be effectively isomerized in the process.

Regarding the isomerization of an aromatic compound with at least one halogen substituent as in claim 4, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to have modified the process of Zones by utilizing these halogen-containing aromatic compounds because one would expect any large aromatic compound to be isomerized since it is generally disclosed that the large polyalkyl-substituted aromatic compounds are isomerized.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Zones by utilizing a zeolite with a crystal size as claimed in claim 10 because using any crystal size in the catalyst would be expected to result in an effective process since it is the catalyst pore characteristics that determine the effectiveness of the catalyst for a specific application.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 97/46486.

The WO 97/46486 reference discloses a process for converting hydrocarbon compounds by contacting the compounds with an UTD-1 zeolite catalyst. The UTD-1 zeolite is formed and synthetic and has the claimed characteristics. The catalyst may contain hydrogenating metals. Specific conversion processes include the isomerization of polyalkyl-substituted aromatics. See page 12, lines 1-10 and page 18, lines 18-30.

The WO 97/46486 reference does not disclose the specific aromatic compounds claimed in claims 1, 4, and 5 and does not disclose the crystal size of claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 97/46486 by utilizing the claimed compounds of claims 1 and 5 because the claimed compounds fall within the general class of

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polyalkyl-substituted aromatic compounds disclosed by WO 97/46486 and therefore would be expected to be effectively isomerized in the process.

Regarding the isomerization of an aromatic compound with at least one halogen substituent as in claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 97/46486 by utilizing these halogen-containing aromatic compounds because one would expect any large aromatic compound to be isomerized since it is generally disclosed that the large polyalkyl-substituted aromatic compounds are isomerized.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of WO 97/46486 by utilizing a zeolite with a crystal size as claimed in claim 10 because using any crystal size in the catalyst would be expected to result in an effective process since it is the catalyst pore characteristics that determine the effectiveness of the catalyst for a specific application.

Response to Arguments

The argument that the focus in the references is on alkylation and transalkylation and not isomerization is not persuasive because each reference discloses that the respective disclosed catalyst can be used in isomerizing polyalkyl substituted aromatics. (WO 97/46486: page 13, lines 33 and 34; Zones: col. 9, lines 44 and 45; Davis: col. 10, lines 29 and 30.)

Applicant's argument that the claimed bulky halogenated aromatic compounds are able to diffuse easily through the newly discovered zeolite catalysts without the risk of being dehalogenated is not persuasive. First applicant appears to argue that the claimed catalysts are

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different from those disclosed by the applied prior art. The examiner is not persuaded on this point because the zeolites disclosed in the applied prior art are the same as those claimed in claim 6. Therefore, the examiner asserts that the disclosed catalysts have the characteristics as claimed. Regarding the assertion that halogenated aromatic compounds will unexpectedly not be dehalogenated, the examiner is not persuaded because such a statement appears to be mere argument without any supporting evidence.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is 703-305-3774. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Walter D. Griffin
Primary Examiner
Art Unit 1764

WG
August 19, 2002